DOCUMENT RESUME

ED 110 963 CS 002 116

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TITLE Some Interpersonal Factors Associated with Successful and Problem Readers.
PUB DATE Apr 75
NOTE 21p.; Paper presented as part of a symposium of Early Identification of Learning Problems: Issues and Findings at the Annual Meeting of the Society for Research in Child Development (Denver, April, 1975)

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS Empathy; Interaction; *Interpersonal Relationship; Parent Student Relationship; Peer Relationship; Primary Education; *Reading Achievement; *Reading Difficulty; *Social Behavior; Tutoring

ABSTRACT

Three different studies concerned with the dimensions of social behavior in successful and problem readers, assessed in contexts of mother-child and peer-peer interactions, are reported in this document. The first study, involving observation of mothers of successful and problem readers while instructing their own and other children in several cognitive tasks, showed that mothers of successful readers spend more time in task preparation while mothers of problem readers are more controlling and directive during task performance, using more negative reinforcement. The second study, focusing on the tutorial behaviors of successful and problem readers, showed that competent reader male tutors administer more negative reinforcement to problem reader tutees than to tutees who are competent readers, and that male problem reader tutors and all female tutors administer more negative reinforcement to competent reader tutees than to problem readers. The third study, concentrating on the relationship between reading success and social behaviors, showed a definite correlation between the two, especially within the control (low risk) group. (Tables of findings are included.) (JM)

SOME INTERPERSONAL FACTORS ASSOCIATED WITH SUCCESSFUL AND PROBLEM READERS*

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In an effort to extend my own research interests in teaching styles and children's empathy, and also to place the acquisition of reading skills in a broader developmental framework, several studies were carried out in which the primary focus was on dimensions of social behavior in successful and problem readers. The social behaviors that were observed involved the interpersonal behaviors of the mothers of these children as well as the children themselves. These behaviors were assessed in the contexts of mother-child interactions and peer-peer situations. As a broad hypothesis, it was predicted that children who were problem readers would manifest more negative interpersonal behaviors than successful readers, with a similar pattern anticipated for the parents of these children. This expectation is based upon the thesis, and supporting data (Bee et al., 1969; Brophy, 1970; Feshbach, 1973a, 1973b, 1973c; Hess & Shipman, 1968, 1969), that socialization experiences are related to cognitive performance.

Study I

The first study (Bercovici & Feshbach, 1973) involved the observation of mothers of successful and problem readers while instructing their own and other children in several cognitive tasks. As in all three of the studies described in this paper, the children sampled were

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* A paper presented as part of a symposium of Early Identification of Learning Problems: Issues and Findings at the annual meeting of the Society for Research in Child Development, Denver, Colorado, April, 1975.

participants in the Prediction of Reading Competence Project, (Feshbach, Adelman, & Fuller, 1975) with both problem and successful readers being of at least average intelligence and matched for IQ, age and sex. The total sample in this first study consisted of 20 first grade children who had been categorized as "successful" readers, 20 first grade children who had been categorized as "problem" readers, their mothers, and 80 additional first graders, comprising a total of 120 children and 40 adults.

The behavior of each of the 40 mothers was observed while instructing three different children whose ages ranged from 78 to 90 months. The first teaching interaction involved a mother instructing her own child; the second observation was of the same mother instructing a second child who was at the same level of reading competence as the mother's own child; while the third instructional sequence was between this same mother and a third child who differed in reading competence from the mother's own child.

Each child was taught two tasks: the first entailed the matching of 12 pairs of simple line-drawn faces; the second, somewhat more complicated than the initial one, consisted of fitting cylinders in pegs of different lengths into holes of varying depths.

A reliable behavioral scoring schema based on minute-to-minute time samples was developed which permitted the observation and scoring of the following maternal teaching strategies and behaviors: pretask orientation time; nonverbal organization, controlling and directive statements, manual guidance, positive reinforcing statements, negative reinforcing statements, punitive statements, specific statements after error, specific statements after success, general statements, specific statements.

During the mother-child teaching situation, a second observer recorded the child's behavior on the following measures: the child's

specific verbal statements; random verbalizations; approval seeking statements; help seeking behavior; nondependent oriented statements; and purposive behavior.

At the termination of the teaching sequence, each lasting approximately ten minutes, the child was readministered the first of the two experimental tasks by one of the experimenters, without the mother/teacher being present. The child's completion time and number of items correct were recorded and considered as the performance measures on the posttest.

Separate 2 X 3 X 2 analyses of variance with repeated measures were used to evaluate the results of the mother teaching behaviors. The factors were mother category, child-group, and task, with task constituting the repeated measured variable. Although there were no differences between the two groups of mothers in time spent in the instructional sequence, there were individual variations in teaching interaction time. Therefore, for those observations where time was a meaningful factor, it was decided to convert the raw data information into rate of behavior per minute scores.

Results for the rate per minute observation scores for both groups of mothers in the teaching interaction with their own children, other nonreaders and readers are summarized in Table 1. As Table 1 indicates, the teaching styles of the mothers of the nonreaders differed systematically on several dimensions. The mothers of the nonreaders used significantly more negative reinforcement ($F=19.07$, $df=1/114$, p .001) and they gave more negative feedback after the child's error ($F=9.58$, $df=1/114$, p .01); they also were significantly more controlling and directive than the mothers of the readers ($F=4.03$, $df=1/114$, p .05), intruding significantly more often into the task than mothers of successful readers

(F=63.73, df=1/114, p .001). On the other hand, the mothers of the readers more frequently organized Task II, the harder task nonverbally (F=4.04, df=1/114, p .05) and spent more time on pretask organization of Task II (F=8.35, df=1/114, p .01) than the mothers of nonreaders, who spent more time on the pretask organization of Task I, the easier task. There were no significant differences in use of positive reinforcement, in pretask orientation time and specificity versus generality in language mode.

The means for children's performance time on the posttest and the means for correct items on the posttest are presented in Table 2, the analysis of variance for each measure yielding a highly significant F ratio (F=28.22, df=1/114, p .001). The longest completion time scores were obtained by the children who were problem readers and who were taught by the mothers of the problem readers. The shortest completion time scores were obtained by the children who were successful readers and who were taught by the mothers of successful readers. In addition, the children who were problem readers and who had been taught by the mothers of successful readers received shorter completion time scores than the children who were successful readers and who were taught by the mothers of problem readers. On items correct on the posttest, children who were taught by the mothers of successful readers had more items correct than children who were taught by the mothers of problem readers.

On the analyses of variance of the child behaviors, only one category yielded significant findings. Other children who were readers were judged to be more independent than other children who were nonreaders, or mother's own children, readers or nonreaders (F=7.51, df=2/114, p .01).

The major findings of this study, consonant with expectation, reflect systematic differences in the teaching behaviors of mothers of elementary

school children with different academic competencies.

The mothers of successful readers spent more time in defining the task, and gave more careful instructions prior to initiating the task. Mothers of nonreaders spent less time orienting the children, organized the task less, were more controlling and directive, used more negative reinforcement and were more task intrusive than the mothers of the readers. The teaching style of the mothers of nonreaders appears to have had a disruptive effect on the performance of the children they taught, as evidenced in the poor performance on the posttest by the academically more competent readers who had been taught by these mothers.

A most significant finding in the present study was the intrusive, controlling and negatively reinforcing teaching strategy of the mothers of the nonreaders, a parenting strategy which may reduce the child's contact with his environment. The parent who limits the child's exploration of the environment by a controlling and directive style, who intrudes into the child's ongoing activity, who gives negative feedback, may adversely affect not only the child's immediate academic activities, but the child's problem solving and coping behaviors as well.

Study II

Our interest in carrying out a subsequent study was in assessing whether the tutorial behaviors of the successful and problem readers were similar to the teaching patterns manifested by the mothers and also in the type of interpersonal behaviors the tutors displayed in the instructional situation and the cognitive effects these behaviors might have upon learners.

For this study, (Feshbach, 1973d; Feshbach & Aschbacher, 1975) we sampled a somewhat older population of boys and girls. Our final sample

consisted of 87 children, 29 of whom were second graders and 58 of whom were first graders. The second grade children served as tutors while the first graders served as learners or tutees. Half of the children at each grade level had been designated as problem readers and the other half, matched for IQ and sex, as successful readers. As in the previous study, the designations of reading competence were based upon an appraisal of the child's performance on a standardized reading test, teachers ratings and classroom performance.

Each second grade tutor, whether a problem or a successful reader, was assigned two first grade tutees--one of whom was a successful and the other a problem reader. The order in which the two pupils were seen was randomly determined for each tutor and counter-balanced for each reading group as a whole. In all teaching interactions, the sex of the tutor and the tutees was the same.

For this study we employed a peer teaching procedure similar to our earlier procedures, using a somewhat different experimental task, consisting of four learning mazes of varying difficulty, and a fifth posttask maze. After the experimenter initially taught the tutor the task, the tutor in turn, individually, taught two learners (tutees), one from each reading group. At the termination of each teaching session, the experimenter administered the posttest maze to the learners.

Two observers were present during each experimental session and recorded the following behaviors: Pretask orientation time, total interaction time, verbal prompting, nonverbal reinforcements and verbal and nonverbal reinforcement. In addition, each peer interaction was videotaped for subsequent coding and analysis of the more elusive and subtle nonverbal behaviors.

Of particular interest were the data obtained for the reinforcement measures presented in Table 3. The results are consistent, in a number of respects with expectation, but in other respects, prove to be rather complex, reflecting sex differences and interactions between the reading competence of the teacher and the reading competence of the learner.

The frequencies of positive and negative verbal reinforcements, presented in Table 3, reflect these interactions, particularly in the use of negative verbal reinforcement. The differences in use of positive reinforcement between the successful and problem reader tutors are small and none of the main effects and interactions are significant. The tendency of competent male readers to administer more positive reinforcement to tutees who are competent readers as compared to tutees who are problem readers, and the reverse trend displayed by the girls, approaches statistical significance.

The analysis of the negative verbal reinforcement data yielded a significant triple interaction. Male tutors who are competent readers administer more negative reinforcement to tutees who are problem readers than to the tutees who are competent readers. However, the male problem reader tutors and both groups of female tutors tend to administer more negative reinforcement to tutees who are competent readers than to problem readers. These differences in negative verbal reinforcement are congruent with the findings for use of positive verbal reinforcement.

The data that are most consonant with expectation are the differences in use of nonverbal positive and negative reinforcement behaviors displayed by the successful and problem readers. These findings, presented in Table 4, indicate that academically successful readers display significantly more positive nonverbal reinforcements and significantly fewer

nonverbal negative reinforcements than do the problem readers. This effect predominantly holds for the boys, since rate of nonverbal negative reinforcement is so low among the girls. The differences between successful reader girl tutors and problem reader girl tutors, while not as pronounced as those found for the boys, are in the same direction and approach statistical significance. The other observed behaviors such as manual interference, pretask orientation time, and prompting did not, in general, differentiate between the groups.

The more detailed mode of analysis, undertaken with the videotape recordings of the peer interactions, included such major dimensions of body attitudes, expressions and movements as: 1) Body contact (i.e., touching, manual guidance); 2) Proximity (i.e., distance between tutor and learner); 3) Orientation (i.e., angle of tutor's body in relation to learner); 4) Posture (i.e., leaning, kneeling, fidgeting); 5) Head position (i.e., nodding, shaking); 6) Facial expression (i.e., eye contact, eye on task). In all, 27 separate measures were coded.*

When the analyses yielding significant effects are examined, we find that most of the effects are interactions. The fact that three of the significant interactions were triple interactions conveys the subtlety and complexity of the variables influencing these specific bodily attitudes and postures. Overall, it appears that male tutors who are competent readers differed systematically, and in most cases significantly, from male tutors who are problem readers when teaching learners who are problem

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* Ms. Paula Sapon played a major role in the development of the scoring instrument and its application. Deep appreciation and thanks are afforded her for her skills and also diligence in scoring the videotapes.

readers. The competent male reader displayed more touching behavior, pointed more often in a facilitative way to the task, and maintained a closer distance and displayed greater eye contact with the problem learner. On the other hand, female tutors displayed a reverse trend in their interaction with learners who are problem readers. The female tutor who is a competent reader, in comparison to the female tutor who is a problem reader, displayed significantly less touching behavior, maintained a significantly greater distance from the tutee, and showed somewhat less eye contact when paired with a problem learner. When separate analyses are carried out on learner behaviors, including performance on posttask as well as specific bodily movement and postural measures, there were practically no significant differences between groups.

The clearest differences that emerge in this study are the differential reinforcement patterns exhibited by tutors varying in reading achievement level, a finding which may reflect the history of the children's particular learning environment. The successful reader has probably received more positive and fewer negative reinforcements in school than the less competent reader who, one can assume, has been exposed to a less favorable reinforcement ratio. However, given the young age of the "tutors" it is also likely that the enviornment for learning which had primary influence on the children's reinforcement styles as well as reading ability was that provided in the home. The findings obtained with the mothers of successful and problem readers (Bercovici & Feshbach, 1973) provide support for this interpretation. Data from longitudinal studies tracing the cognitive development of children in conjunction with an evaluation of parental teaching behaviors, attitudes, and values are needed to provide more direct evidence on this proposed relationship.

Study III

The third and final study to be reviewed here is concerned with factors that may be important mediators of the child's interpersonal behaviors. Since educators, with increasing frequency, are placing reading and other language skills in the broader context of children's communication patterns and systems, it seemed pertinent to determine whether children who differed in a communication skill such as reading would also differ on possible mediating variables such as empathy and social comprehension, behaviors considered to be critical components in social communication (Feshbach, Kuchenbecker & Feshbach, 1975).

For this purpose the Feshbach and Roe Affective Situation Test for Empathy (FASTE), (Feshbach, 1975; Feshbach & Roe, 1968), a measure which depicts both boys and girls in different affective situations, accompanied by verbal narration, was administered to different samples of children in the Prediction Project. These samples included groups of second and third grade children selected for successful or nonsuccessful reading performance. Within each of these two performance groups there were children, who during their kindergarten year, had been categorized as high risk and children who had been designated as controls or low risk. In selecting these samples, an effort was made to match all four subgroups on IQ, age and sex. Children from each subgroup were randomly assigned to one of three modes of presentation of the Affective Situation Test--Auditory-Visual which is the standard format; Visual in which only the slides were presented, and Auditory in which only narration was presented.

A previous investigation had reflected significant and different developmental trends in social comprehension and empathy for each of these modalities (Kuchenbecker, Feshbach & Pletcher, 1974). In view of the

interest in the role of stimulus modality in reading deficits, modality variation in stimulus presentation was incorporated in the present design. In Table 5 the design, including the mean IQ and ages at kindergarten entry for high and low-risk successful and nonsuccessful groups, is presented.

The principal findings are summarized and presented in Table 6. The mean empathy scores reflect the degree to which the child's affective self report, following observation of each slide sequence, corresponded with the depicted affect. The total number of conceptual parts recalled is one of the measures of social comprehension and is based upon the child's understanding and recall of the principal components of the affective situation. The auditory score is based upon the total number of auditory information items recalled by the child under the auditory and auditory-visual conditions.

Inspection of the data in Table 6 indicates that the most striking differences in empathy and social comprehension are obtained in the control or low-risk group, between those children who became successful readers and those children who became problem readers, the latter group constituting the false negatives. Among the control group, the successful readers have significantly higher empathy scores and auditory information scores than the nonsuccessful readers and also tend to recall more conceptual parts. Of particular interest is the interaction between sensory modality and this experimental effect. The discrepancy in empathy and social comprehension scores between successful and nonsuccessful control children is not obtained under the visual condition. This pattern suggests that the false negative group may be children who have a special difficulty in processing auditory sources of information which require attention, comprehension and reproduction.

It should be noted that a similar pattern is obtained for the empathy response, which includes an affective as well as a cognitive component. This similarily is a reminder of the basic interdependence of these two behavioral domains. As Table 6 further indicates, significant differences in empathy between successful and nonsuccessful readers are also found for the high risk children, more competent readers displaying significantly more empathy than problem readers. Again, the influence of modality is critical, the difference between these two high risk subgroups being manifested under auditory and auditoryvisual modes of presentation but disappearing under the visual only condition.

Of interest is the relative absence of differences in empathy and social comprehension between the predicted high risk and low risk children. Attainment of reading competence proves to be a more discriminating variable than predicted reading competence.

One question raised by these data is whether the inclusion of empathy and social comprehension measures at kindergarten would have refined the prediction of reading competence, or, whether developmental factors subsequent to kindergarten account for the interrelationship observed between reading competence and social comprehension and empathy.

In conclusion, the finding of these studies make salient the possible importance in the development of learning problems of specific teaching behaviors employed by mothers and point to the continued manifestation of similar behaviors in their offspring. Further, these experimental approaches to interpersonal behaviors associated with children with learning problems, while addressed to only a few dimensions in the matrix of variables involved in the socialization process, give us some insight into the interdependence of social, emotional and cognitive factors in school performance.

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TEACHING STYLES OF MOTHERS OF "SUCCESSFUL" READERS AND "PROBLEM" READERS IN THE FIRST GRADE

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TABLE 1

SUMMARY TABLE OF MOTHERS' DEPENDENT MEASURES FOR MOTHERS OF READERS AND MOTHERS OF NONREADERS FOR TASKS I AND II COMBINED

	Mothers of Readers (N=20)			Mothers of Nonreaders (N=20)		
	Own	Other N R	Other R	Own	Other N R	Other R
Pretask Orientation Time	22.33	24.83	27.38	21.13	21.75	27.85
Nonverbal Organization	0.42	0.39	0.41	0.33	0.31	0.30*
Control & Directive	0.13	0.08	0.10	0.24	0.14	0.12*
Manual Guidance	0.06	0.06	0.05	0.33	0.42	0.36***
Positive Reinforcement	0.48	0.46	0.55	0.40	0.52	0.58
Negative Reinforcement	0.12	0.04	0.04	0.26	0.14	0.09***
Negative Information After Child's Error	0.24	0.19	0.18	0.32	0.24	0.30**
General Statements	0.20	0.16	0.19	0.22	0.23	0.18
Specific Statements	0.27	0.25	0.28	0.26	0.29	0.32

Mean duration score

Rate per minute scores

* $p < .05$

** $p < .01$

*** $p < .001$

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TABLE 2

MEAN DURATION TIME AND ITEMS CORRECT ON THE POSTTEST FOR READERS AND NONREADERS

	Taught by Mothers of Readers (N=20)			Taught by Mothers of Nonreaders (N=20)		
	Own	Other NR	Other R	Own	Other NR	Other R
Posttest Time	156.55	170.45	137.65	352.55	308.50	232.50***
Correct Items on Posttest	12.00	11.30	12.00	10.90	10.00	11.80*

* $p < .05$

** $p < .01$

*** $p < .001$

TEACHING STYLES IN YOUNG CHILDREN: IMPLICATIONS FOR PEER TUTORING

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TABLE 3

AVERAGE FREQUENCIES OF VERBAL REINFORCEMENTS (PER MINUTE)

	Tutor (Successful Reader)		Tutor (Problem Reader)	
	Learner (Successful Reader)	Learner (Problem Reader)	Learner (Successful Reader)	Learner (Problem Reader)
A. Positive Reinforcement				
Boys	.82	.45	.63	.66
Girls	.41	.61	.40	.47
B. Negative Reinforcement				
Boys	.28	.90	.66	.46
Girls	.36	.19	.33	.19

TEACHING STYLES IN YOUNG CHILDREN: IMPLICATIONS FOR PEER TUTORING

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TABLE 4

AVERAGE FREQUENCIES (PER MINUTE) OF NON-VERBAL REINFORCEMENTS

	Tutor (Successful Reader)		Tutor (Problem Reader)	
	Learner (Successful Reader)	Learner (Problem Reader)	Learner (Successful Reader)	Learner (Problem Reader)
A. Positive Reinforcement				
Boys	.50	.50	.20	.10
Girls	.13	.11	0	0
B. Negative Reinforcement				
Boys	0	0	.50	.10
Girls	0	0	0	.05

THE EFFECTS OF MODALITY OF STIMULUS PRESENTATION ON SOCIAL COGNITION AND EMPATHY IN PROBLEM READERS AND THEIR MATCHED CONTROLS

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TABLE 5

MEAN AGE AND IQ AT KINDERGARTEN ENTRY FOR EACH EXPERIMENTAL GROUP

	Modality	Auditory		Visual		Auditory-Visual	
	Reading Success	Succ	Non-S	Succ	Non-S	Succ	Non-S
Prediction							
High Risk at Kindergarten	Age (in months)	61	63	62	60	59	62
	IQ	106	102	102	105	110	99
	N	5	5	5	5	6	6
(Control) Low Risk at Kindergarten	Age (in months)	63	62	62	65	63	65
	IQ	104	104	105	105	104	104
	N	13	12	12	12	12	12

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TABLE 6

MEAN EMPATHY AND COMPREHENSION SCORES AS A FUNCTION OF MODALITY OF STIMULUS PRESENTATION AND READING SUCCESS IN HIGH AND LOW RISK CHILDREN

Prediction	Modality	Auditory		Visual		Auditory-Visual	
	Reading Success	Succ	Non-S	Succ	Non-S	Succ	Non-S
High Risk at Kindergarten	Empathy	5.2	3.2	3.6	3.8	6.2	1.2
	Conceptual Parts Recalled	19.2	19.0	20.0	20.4	18.4	20.2
	Auditory Bits Recalled	24.8	27.6	--	--	22.2	23.7
(Control) Low Risk at Kindergarten	Empathy	4.3	2.6	5.3	4.9	5.0	2.9
	Conceptual Parts Recalled	20.7	16.8	20.3	21.9	18.6	17.1
	Auditory Bits Recalled	34.7	20.6	--	--	29.3	18.1

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